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PATENT

IBM/04B

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P.2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Joseph Phillip Bigus et al.
Serial No.: 09/100,595
Filed: June 19, 1998
For: OPTIMIZING THE PERFORMANCE OF COMPUTER TASKS USING INTELLIGENT AGENT WITH MULTIPLE PROGRAM MODULES HAVING VARIED DEGREES OF DOMAIN KNOWLEDGE

Art Unit: 2762
Examiner: Wilbert L. Starks, Jr.
Atty. Docket No.: IBM/04B

AMENDMENT AND RESPONSE

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

This paper is submitted in reply to the Office Action dated October 4, 1999, within the three month period for response. Reconsideration and allowance of all pending claims are respectfully requested.

In the subject Office Action, claims 30-32, 36-37, 39-45, 47-57, 59-60, 62-66, 68-74 and 76-80 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,644,727 to Atkins. The Examiner did indicate, however, that claims 38, 58 and 67 were directed to patentable subject matter.

Applicants respectfully traverse the Examiner's rejections to the extent that they are maintained.

As an initial matter, Applicants wish to thank the Examiner for the courtesy extended in the personal interview conducted between the Examiner, the Examiner's Supervisor and Applicants' representative on December 1, 1999.

Turning now to the rejections, the Examiner initially indicated in paragraph 3 of the Office Action that Applicants admitted on the record that Applicants' claimed point of novelty regarding the use of intelligent agents to conduct negotiations in an electronic commerce

application was "common" in the computer art, referring to the language in independent claims 30, 49, 64 and 78 regarding performance of a "common" computer task.

However, as Applicants' representative indicated in the aforementioned interview, the Examiner has apparently misconstrued Applicants' use of the term "common" in describing a computer task performed by the various modules selected for use in an intelligent agent. Specifically, as discussed at page 14, lines 1-12 of the application, and as is fully consistent with the ordinary dictionary definition of the term, Applicants' intended use of the term "common" is to indicate that the plurality of program modules are each configured to handle roughly the same computer task, albeit in different manners and with different degrees of autonomy (see, e.g., Webster's Dictionary, def. 2a, "*belonging to or shared by two or more individuals or things or by all members of a group*"). Put another way, while each of the plurality of modules has different specific functionality imparted thereto, each of the modules is configured to perform the same general task. Accordingly, Applicants wish to make it clear on the record that no admission as to the conventionality of the claimed subject matter has been made.

Now turning to the Examiner's rejection of claim 30, the Examiner asserts that this claim is obvious over Atkins.

Claim 30, however, is directed to a program comprising an intelligent agent including at least one of a plurality of program modules having varied degrees of autonomy, with each program module configured to handle a common computer task that includes conducting negotiations in an electronic commerce application. The program is also configured to, based upon an objective criteria, select at least one program module from the plurality of program modules to handle the computer task.

Atkins, on the other hand, is merely directed to a financial management system that recites the use of interactive agents capable of negotiating, cooperating and transacting various forms of exchange, investment and borrowing. However, as Applicants' representative pointed out in the aforementioned interview, Atkins does not address the specific language recited in claim 30.

Specifically, Atkins is silent as to providing a plurality of program modules for use in an intelligent agent, and as to providing program modules having varied degrees of autonomy. Moreover, Atkins is silent as to providing a plurality of program modules that are specifically configured to handle a common computer task that includes conducting negotiations in an electronic commerce application. Further, Atkins is silent as to the selection of a selected program module among many based upon an objective criteria.

As Atkins fails to disclose or suggest any of these claimed features, Atkins does not render claim 30 obvious. The rejection of claim 30 on the basis of Atkins should therefore be withdrawn.

The Examiner also inferentially relies on a slide presentation by Pattie Maes and on a "Telescript" language to respectively discuss the concepts of "autonomy" and negotiation by agents. Applicants, however, are unclear as to whether these references are actually being cited as a basis for rejection of the claim. Moreover, it is also unclear on the record whether either of these references has an effective filing date prior to Applicants' filing date. Nonetheless, it does not appear that the slide presentation discloses or suggests the selection of program modules in an intelligent agent based upon an objective criteria, or the selection of program modules for the purpose of configuring the autonomy of an agent when performing an electronic commerce negotiation. Applicants were not provided with any material regarding the Telescript language, and as such, cannot comment on the scope of the teachings of this reference at this time.

As a consequence, Applicants respectfully submit that claim 30 is patentable over the prior art of record. Reconsideration and allowance of this claim, as well as claims 31-32, 36-45 and 47-48 which depend therefrom, are respectfully requested.

Next, with respect to independent claims 49 and 64, each of these claims similarly recite the customization of an intelligent agent through the selection from multiple program modules having varying degrees of autonomy, and for the purpose of conducting electronic commerce negotiations. As such, Applicants respectfully submit that these claims are also patentable over the prior art of record for the same reasons as presented above with respect to claim 30.

Reconsideration and allowance of claims 49 and 64, as well as claims 50-60, 62-63, 65-74 and 76-77, are respectfully requested.

Next, with respect to independent claim 78, this claim recites a method of handling a computer task using an intelligent agent, which includes the steps of determining a risk for a remote computer system, selecting at least one program module from a plurality of program modules having varied degrees of domain knowledge based upon the risk for the remote computer system, and configuring an intelligent agent to execute the selected program module to handle the computer task. At the outset, it is to be noted that the concept of "risk" embodied in the claim is that of a risk of fraud or compromise of an agent when the agent is dispatched to the remote computer system (see, e.g., page 14, lines 21-31 of the application). The Examiner apparently takes the position that Atkins discloses the concept of risk; however, the risk to which Atkins is directed is a financial risk, e.g., in the manner that investments in stocks are riskier than investments in bonds. Thus, the "risk" disclosed by Atkins is completely irrelevant to claim 78 when the claim is read in the context of Applicants' disclosure as a whole.

As with the other independent claims, the rejection does not specify how Atkins discloses or suggests the various features recited in claim 78. There is no disclosure or suggestion in Atkins or elsewhere in the prior art of record of configuring an intelligent agent using one or more program modules varying in autonomy based upon the determined risk to which an intelligent agent will be subjected to when dispatched to a remote computer system. Atkins, in fact, is silent as to any recognition of the risk that an intelligent agent can be subjected to when conducting negotiations on a remote computer system. As such, the rejection of claim 78 on the basis of Atkins cannot be maintained.

Applicants respectfully submit that the claimed method of configuring an intelligent to vary the autonomy thereof based upon the risk presented to the agent provides a unique and unexpected advantage over conventional agent negotiation systems. In particular, given that agents may be subjected to varying levels of risk, which is often outside of the control of the client of the agent, an ability to objectively determine the risk, and accommodate for such risk in

the configuration of the agent, enables the agent-based negotiations to effectively balance security and autonomy in different situations.

Accordingly, Applicants respectfully submit that claim 78 is patentable over the prior art of record. Reconsideration and allowance of this claim, as well and claims 79 and 80 which depend therefrom, are respectfully requested.

As a final matter, while each of the dependent claims is patentable in view of their dependence upon the aforementioned independent claims, Applicants wish to address several of the dependent claims separately. In particular, with respect to claims 36-37, 39-41, 53, 56, 66 and 69-70, each of these claims recite various features associated with an evaluation module that is configured to select the selected program module based upon the objective criteria. In rejecting these claims, the Examiner relies on column 25, lines 62-63 of Atkins for disclosing genetic learning techniques. However, a close review of the reference indicates that the cited passage is not even directed to intelligent agents, but is rather directed to the discussion of an expert system used to give financial advice. The cited passage thus has no relevance to intelligent agents, conducting electronic commerce negotiations, or varying the autonomy of an intelligent agent. The Examiner also inferentially refers to a genetic algorithm reference to Koza; however, this reference similarly fails to disclose or suggest the use of an evaluation module for selecting program modules of varying autonomy for use in an intelligent agent.

Next, claims 42-45, 50-51, 54-55 and 71-74 disclose various configurations of how one or more selected program modules may be selected from the plurality of program modules based upon the objective criteria. The rejections rely on the same cited language in Atkins, and Koza is referenced inferentially as well. However, given that the cited passages in Atkins and Koza are irrelevant to agents, agent autonomy, program modules and/or the selection thereof in agents, Applicants fail to see how the cited references can be applied to these claims.

Next, with respect to claims 48, 63, 77 and 79-80, each of these claims is directed to the use of "risk" as the objective criteria. As discussed above in connection with claim 78, however, Atkins deals with financial risk, and not the risk that an intelligent agent may be subject to in a remote computer system. As such, Atkins is irrelevant to the claims as well.

In summary, Applicants respectfully submit that all pending claims are novel and non-obvious over the prior art of record. Reconsideration and allowance of all pending claims are therefore respectfully requested. If the Examiner has any questions regarding the foregoing, or which might otherwise further this case onto allowance, the Examiner may contact the undersigned at (513) 241-2324. Moreover, if any other charges or credits are necessary to complete this communication, please apply them to Deposit Account 23-3000.

Respectfully submitted,

6 DEC 1999

Date

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DEC 7 - 1999

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PATENT, TRADEMARK, COPYRIGHT
AND UNFAIR COMPETITION LAW
AND RELATED LITIGATION

December 6, 1999

FACSIMILE COVER SHEET

To: 703-305-0040

TO

Examiner Wilbert L. Starks, Jr.
United States Patent and Trademark Office

FROM

Scott A. Stinebruner, Esq.
Reg. No. 38,323

Enclosures:

Fax Cover Sheet
Amendment Transmittal (in duplicate containing Certificate of Facsimile Transmission
Amendment and Response

REGARDING

U.S. Patent Application Serial No. 09/100,595
Filed: June 19, 1998
Applicant: Joseph Phillip Bigus et al.
Art Unit: 2762

Our Ref: IBM/04B

Total Pages - 11

MESSAGE/COMMENTS

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence and the enclosures noted herein (11 total pages) are being transmitted via facsimile transmission to Examiner Wilbert L. Starks, Jr., Assistant Commissioner for Patents, Washington, D.C. 20231 at 703-305-0040 on December 6, 1999.

Judith L. Volk December 6, 1999

Judith L. Volk Date

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Judith L. Volk — December 6, 1999
Judith L. Volk — Date

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Serial No.: 09/100,595 — Examiner: Wilbert L. Starks, Jr.
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Assistant Commissioner for Patents
Washington, DC 20231

TRANSMITTAL

1. ☒ **Transmitted herewith is an Amendment and Response.**

2. ☐ Small Entity status of this application under 37 CFR 1.9 and 1.27 has been established by a verified statement previously submitted.

   ☐ Enclosed is a verified statement to establish Small Entity status

   ☒ **Other than a Small Entity**

3. **The fee has been calculated as shown below:**

CALCULATION OF FEES

Fee:	Number of Claims After Amendment:		Previously Paid For:	No. Extra:	At Rate:	Amount:
Total Claims	48	minus	48	0	$18	$0.00
Independent Claims	4	minus	4	0	$78	$0.00
MULTIPLE DEPENDENT CLAIM FEE					$260	$0.00
TOTAL FEE FOR CLAIMS:						**$0.00**

☒ **No additional fee for claims is required.**

4. ☐ Attached is a check in the sum of $_____ for additional claims Fee.

☐ Please charge my Deposit Account No. 23-3000 in the amount of $_____.

5. **The proceedings herein are for a patent application and the provisions of 37 CFR 1.136 apply. Complete (a) or (b) as applicable.**

(a) ☐ Applicant petitions for an extension of time under 37 CFR 1.136 for the total number of months checked below:

	Ext. Mos.	Large entity	Small entity
☐	one month	$ 110.00	$ 55.00
☐	two months	$ 380.00	$ 190.00
☐	three months	$ 870.00	$ 435.00
☐	four months	$1,360.00	$ 680.00
☐	five months	$1,850.00	$ 925.00

Extension fee due with this request: $_____

Method of Payment: Check enclosed in the amount of $_____

If an additional extension of time is required, please consider this a petition therefor.

(Check and complete the next item, if applicable)

☐ An extension for ____ months has already been secured and the fee paid thereof of $____ is deducted from the total fee due for the total months of extension now requested. Extension fee due with this request $____.

OR

(b) ☒ **Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition for extension of time.**

☒ **If any additional fee for claims or extension of time is required, charge Account No. 23-3000.**

Respectfully submitted,

WOOD, HERRON & EVANS, L.L.P.

By: _____
Scott A. Stinebruner
Reg. No. 38,323

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Cincinnati, Ohio 45202-2917
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Enclosed:

Amendment Transmittal (in duplicate) containing
Certificate of Facsimile Transmission
Amendment and Response